
EXECUTIVE SUMMARY

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Introduction

The Bureau of Land Management (BLM), an agency of the U.S. Department of the Interior (USDI), manages vegetation on nearly 261 million acres (public lands) in 17 states in the western U.S., including Alaska. Management and control of vegetation on public lands for resource and habitat enhancement is an important function of this agency, including management to reduce the risk of wildfires to people and their property. Management and control of vegetation for resource and habitat enhancement is accomplished using a variety of treatment methods, including, but not limited to: herbicides, prescribed fire and wildland fire use for resource benefit (collectively termed “fire use”), manual and mechanical methods, and biological controls such as insects, pathogens, and domestic grazing animals.

The BLM is proposing to increase the number of acres of vegetation treated annually from approximately 2 million to 6 million. Treatments would occur in 17 western states in the U.S., including Alaska. The action would reduce the risk of catastrophic wildfires by reducing hazardous fuels, restoring fire-damaged lands, and improving ecosystem health by 1) controlling weeds and invasive species; and 2) manipulating vegetation to benefit fish and wildlife habitat, improve riparian and wetland areas, and improve water quality in priority watersheds.

This *Vegetation Treatments on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Report (PER)*, discloses the general effects on the environment of using non-herbicide treatment methods, including fire use, and mechanical, manual, and biological control methods, to treat hazardous fuels, invasive species, and other unwanted or competing vegetation.

A separate *Vegetation Treatments Using Herbicides on Bureau of Land Management Lands in 17 Western States Programmatic Environmental Impact Statement (PEIS)* analyzes the effects of herbicide use on humans, plants, animals, and other environmental and social resources associated with public lands. The PEIS analysis provides the basis for a programmatic Endangered Species Act (ESA) Section 7 consultation with the U.S. Fish and Wildlife Service and National

Oceanic and Atmospheric Administration National Marine Fisheries Service on the potential effects of treatments on plant and animal special status species.

Background

In recent years, the severity and intensity of wildfires in the West has increased dramatically from levels in the 1970s and 1980s; currently, a million or more acres burn annually. Changes in the vegetation on public lands have resulted in increases in hazardous flammable fuels.

Much of the increase in hazardous fuels can be attributed to fire exclusion policies over the past 100 years. Contributors to the change include intermittent and long-term drought over the past 40 years and an increase in the spread of noxious weed species and other invasive vegetation. Invasive species are the dominant vegetation on an estimated 35 million acres of public lands. The estimated rate of weed spread on western public lands in 1996 was 2,300 acres per day. Invasive vegetation and noxious weeds degrade or reduce soil productivity, water quality and quantity, native plant communities, wildlife habitat, wilderness values, recreational opportunities, and livestock forage, and are detrimental to the agriculture and commerce of the U.S. and to public health. Weed infestations can become permanent if left untreated.

In response to the threats of wildfire and invasive species, the President and Congress have directed the USDI and BLM, through implementation of the *National Fire Plan*, and the *Healthy Forests Restoration Act of 2003*, to take more aggressive actions to reduce catastrophic wildfire risk on public lands. The actions would be taken to protect life and property, and to manage vegetation in a manner that provides for long-term economic sustainability of local communities, improved habitat and vegetation conditions for fish and wildlife, and other public land uses.

The BLM last assessed its use of vegetation treatment methods during the late 1980s and early 1990s, by preparing Environmental Impact Statements (EISs) and Records of Decision (RODs) that covered vegetation treatment activities in 14 western states in the continental U.S. These EISs evaluated the

environmental impacts associated with vegetation control and modification from use of herbicides, in addition to other treatment methods—manual, mechanical, and biological control methods, and use of fire on approximately 500,000 acres of public lands a year in the western U.S. The EISs also evaluated the risks to human health and non-target species associated with using 20 herbicide active ingredients on these public lands.

To maintain and improve the effectiveness of its vegetation management practices, this PER supports the BLM's intent to continue to use, and increase the use of, a variety of fire and non-fire treatment methods to reduce hazardous fuels, control unwanted vegetation, and improve habitat and resource conditions. These actions will be accomplished primarily through the proactive use of herbicides, prescribed fire, wildland fire for resource benefit, manual and mechanical methods, and biological controls that have been approved for use on public lands through previous EIS Records of Decision addressing vegetation control.

Program Objectives and Goals

The goals of vegetation management are to sustain the condition of healthy lands, and, where land conditions have degraded, to restore desirable vegetation to more healthy conditions. Eventually, the number of acres needing treatment should be reduced as a result of overall improvement in conditions.

Concurrently, public lands must be administered under the principles of multiple use and sustained yield in accordance with the intent of Congress as stated in the Federal Land Policy and Management Act of 1976 (FLPMA). Thus, vegetation must be managed to protect and enhance the health of the land while providing a source of food, timber, and fiber for domestic needs. Land-disturbing activities must be conducted in a manner that minimizes ecosystem fragmentation and degradation, and lands should be rehabilitated, when necessary, to safeguard the long-term diversity and integrity of the land.

The BLM is increasing the number of acres treated annually from nearly 2 million up to 6 million to respond to Presidential and Congressional mandates to reduce the risk of wildfire by reducing the occurrence of hazardous fuels, especially in the wildland urban interface, restoring fire-adapted ecosystems, and repairing lands damaged by fire. Public lands that are

subject to these mandates total about 5 million acres annually. The remaining 1 million acres would be treated based on the needs of other programs within the BLM.

When developing treatment objectives on the national and local level, the BLM will 1) take actions to prevent or minimize the need for vegetation controls, where feasible; 2) use effective non-chemical methods of vegetation control, where feasible; and 3) use herbicides only after considering the effectiveness of all potential methods.

The overriding goal is to restore desirable vegetation on lands only when it is necessary, and to prioritize treatment methods based on their effectiveness and the likelihood that they will have minimal effects on the environment.

Actions to prevent or minimize the need for vegetation control could include protecting intact systems; maintaining conditions that have led to healthy lands (e.g., allowing natural fires to burn); allowing natural processes to restore lands; reducing the effect of ongoing activities (e.g., improving grazing management practices); and applying mitigation measures to new projects to minimize soil and vegetation disturbance and avoid introduction of invasive species.

Acres to be treated by the BLM and assessed in this PER were estimated based on information provided by BLM field offices. Each field office was asked to estimate and summarize proposed vegetation treatment projects likely to occur during the next 10 years. For each project, the field office provided an estimate of the number of acres proposed for treatment, the general vegetation type(s) proposed for treatment, and the vegetation treatment method(s) proposed to be used.

Based on this estimate, approximately 3.5 million acres would be treated annually to reduce hazardous fuels, 1.5 million acres to restore and revegetate lands burned by wildfires or damaged by weed and other invasive species, and 1 million acres to meet other agency objectives, including improving fish and wildlife habitat and watershed processes. Mechanical treatments would be used on approximately 2.2 million acres, fire use on 2.1 million acres, herbicides on 932,000 acres, biological control on 454,000 acres, and manual treatments on 271,000 acres annually.

The BLM would follow standard operating procedures, based on BLM guidelines that currently exist in policy, manuals, or handbooks, to ensure that vegetative treatment actions are effective. These procedures include using prevention and early detection to minimize weed problems in the future and revegetating treatment sites. In addition, the BLM would follow standard industry practices, including using equipment in proper working order, wearing protective clothing, and following label directions when applying herbicides.

The BLM would monitor vegetation treatments so that treatment outcomes could be measured, evaluated, and used to guide future treatment actions. These steps would ensure that vegetation treatment processes would be effective, adaptive, and based on prior experience.

The BLM would foster collaborative relationships with stakeholders, including individuals, communities, and governments. This collaboration would improve communication and help the BLM develop a greater understanding of different perspectives and find solutions to issues and problems. The BLM would also follow the National Environmental Policy Act (NEPA) process to ensure that the public is allowed input into vegetation management actions on public lands.

Effects of Treatments

The direct and indirect effects of treatments on natural and socioeconomic resources are evaluated in this PER. The effects of using herbicides, and cumulative effects that result from the incremental effect of treatment actions when added to the effects of other past, present, and reasonably foreseeable future actions, are discussed in more detail in the PEIS.

Direct and Indirect Effects

Treatments would contribute only minor amounts of pollutants to the air. Fire use would increase particulate matter in the air, but the amount of pollutants generated by fire use, and their effects on human health, should be less than those from wildfire, resulting in fewer pollutants accumulating than would occur without treatments. None of the treatments would result in emissions that exceed Prevention of Significant Deterioration thresholds or National Ambient Air Quality Standards.

Treatments would lead to the short-term loss of soil due to removal of vegetation and erosion. None of the herbicides commonly used, or proposed for use, by the BLM appears to result in adverse effects to soil. Treatments would benefit soil by restoring natural fire regimes and slowing the spread of weeds, which should reduce soil erosion and improve soil productivity over the long term.

Treatments that lead to erosion could result in poorer water quality on portions of public lands. Several herbicides used, or proposed for use by the BLM, are known groundwater contaminants. Effects to surface water would be minor, and herbicide concentrations in surface water should not exceed safe levels for human health. Treatments would improve watershed function and water quality, since many treatments would be targeted for watersheds where water quality does not meet state or tribal standards.

Treatments could adversely affect non-target vegetation and accidental spills of herbicides and herbicide drift from treatment areas could be particularly damaging to non-target vegetation. Treatments that lead to erosion and loss of vegetation could harm wetland and riparian area functions and values. Treatments would help to control aquatic vegetation that chokes waterways and affects wetland function and values. Upland, wetland, and riparian area treatments that restore native vegetation would help to control weeds and other vegetation to reduce the risk of catastrophic fire and improve ecosystem health.

Treatments could cause injury or mortality to fish and wildlife, alter or destroy habitat, and disturb animals, thereby affecting their behavior or habitat use. Fish and wildlife could also forage on vegetation that has been treated, or prey on other animals that have been exposed to herbicides, and be harmed. All of the herbicides pose some risk to non-target terrestrial and aquatic vegetation; damage to these plants could adversely affect habitats used by fish and wildlife. Long-term improvement in vegetation characteristics would benefit fish and wildlife. Some species that have adapted to degraded ecosystems could lose habitat as native vegetation was restored, but most species would benefit.

Treatments that cause the short-term loss of forage and other vegetation needed by livestock and wild horses and burros could harm these animals. Livestock and wild horses and burros could be affected by herbicides from an accidental spill, direct spray, herbicide drift,

or by consuming herbicide-treated vegetation; these risks would be negligible to minor. Treatments should improve rangelands for these animals, and ensure that public lands can support viable populations of wild horses and burros and a healthy ranching industry.

While treatments could affect cultural or paleontological resources near or on the surface, they would be more likely to affect traditional cultural practices of gathering plants and the health of Native peoples. Cultural and paleontological resources could be directly affected primarily from fire use and mechanical and herbicide treatments. Native peoples could be at risk from harvesting plants treated with herbicides, or from direct exposure to herbicide spray. However, the BLM would use herbicides that are generally safe for use around people, and would conduct pre-treatment surveys to identify areas of cultural concern before conducting treatments to reduce the loss of these values.

Treatments could affect visual, wilderness, and recreation resources. Treatments would remove and discolor vegetation, making it less visually appealing. Over the long term, landscapes should be more appealing as native vegetation was restored. Treatments in wilderness and other special areas would detract from the “naturalness” of the area. Use of mechanical equipment would create noise and reduce the wilderness experience, although it would be strongly discouraged in these areas. Recreationists could be exposed to herbicides, experience less visually-appealing landscapes, or find fish and game less plentiful as a result of treatments. In addition, recreational areas could be closed for short periods of time after treatment to ensure treatment success and protect the health of visitors. However, these effects would be short term and any values affected would be restored within two growing seasons in most cases.

Social effects would be minor at the scale addressed in the PER. There would be benefits to communities that supply workers, materials, or services in support of treatment activities. Some businesses, such as recreation-based businesses and ranching operations, could be adversely affected if treatments closed areas used for recreation or by domestic livestock. There are potential environmental justice concerns because a large number of Native peoples and other minority groups live in the West and work in industries (e.g., forest products, herbicide application) or conduct activities (e.g., gathering of plants for traditional uses, recreation) that could potentially expose these groups to treated areas. Treatments would benefit local

communities by providing jobs and income, and by reducing the risk of catastrophic wildfire that could harm people and destroy property.

Treatments could harm the health of workers and the public, primarily from the use of herbicides. Most herbicides, however, would pose few risks to workers, and even fewer risks to the public, when applied at the typical application rate. New herbicides proposed for use pose few or no risks, except for diquat. If treatments restored natural fire regimes, reduced the risk of catastrophic fire, and slowed the spread of weeds, human health would benefit. To reduce risks to the public, treatments would take into consideration the proximity of the treatment site to nearby residential, commercial, and traditional use areas. For example, mechanical treatments might be used instead of fire or herbicides near homes to reduce the risk of public exposure to smoke and herbicide drift.

Summary

All treatments would have short-term effects on resources, and in some cases non-target resources, ranging from negligible or minor to adverse, depending on the resource affected, timing, duration, proximity and location. Treatments that remove hazardous fuels from public lands would be expected to benefit the long-term health of plant communities in which natural fire cycles have been altered. The suppression of fire results in the buildup of dead plant materials (e.g., litter and dead woody materials), and often increases the density of flammable living fuels on a site. Treatments that restore and maintain fire-adapted ecosystems, through the appropriate use of mechanical thinning, fire use, and other vegetation treatment methods, would decrease the effects of wildfire on plant communities and improve ecosystem resilience and sustainability. Treatments should also reduce the incidence and severity of wildfires across the western U.S.

Treatments that control populations of non-native species on public lands would be expected to benefit native plant communities over the long term by aiding in the reestablishment of native species. The degree of benefit would depend on the success of these treatments over both the short and long term. Some treatments are very successful at removing weeds over the short term, but are not successful at promoting the establishment of native species in their place. In such cases, seeding and planting of native plant species would be beneficial.